

REMARKS

Claims 20-26 are presented for consideration, with Claims 20 and 23 being independent.

Claim 23-26 have been added to provide an additional scope of protection. Support for the new claims, can be found, for example, in Figures 15-1 through 15-6, and the accompanying specification beginning on page 28, line 22.

Claims 20-22 stand rejected under 35 U.S.C. §103 as allegedly being obvious over Furusawa '305. This rejection is respectfully traversed.

Claim 20 of Applicants' invention relates to a wiring forming method comprising a first step of supplying a first liquid containing an insulating material on a substrate to form an insulated pattern on the substrate, with the first insulated pattern partially forming a first layer, and a second step of, after the first step, supplying a second liquid containing a conductive material on the substrate to form a first conductive pattern, with the first conductive pattern partially forming the first layer. In addition, a third step, after the second step, applies the second liquid on the first conductive pattern to form a second conductive pattern on the first conductive pattern, with the second conductive pattern partially forming the second layer, and a fourth step, after the third step, applies the first liquid on the first layer that the first insulated pattern and the first conductive pattern have formed to form a second insulated pattern as part of the second layer that the second conductive pattern partially formed.

In accordance with Applicants' invention, a high performance wiring can be formed.

The Furusawa patent relates to a multilayered wiring board that is formed using a liquid drop discharge system. As shown in Figures 1-3 and disclosed in column 7, line 17, *et. seq.*, a first layer formed on a substrate, or board, 10, is a conductive layer of conductive ink to

form a wiring pattern 17 (see Figure 1(a)). In the next step, interlayer conductive posts 18 are formed for conducting a second layer through an interlayer insulation film (Figure 1(f)). After the second step, the interlayer insulation film is formed by ink 21 (Figure 2(a)). Subsequent to these steps, a wiring pattern 31 and interlayer conductive post 32 are formed, and then another interlayer insulation film 33 is formed (Figures 3(a) and (b)).

In direct contrast to Applicants' claimed invention, in which an insulated pattern is formed in the first step and a conductive pattern is formed in the second step, Furusawa forms a conductive pattern before an insulated pattern, as discussed above. This distinction is acknowledged on page 3 of the Office Action. The Office Action takes the position, however, that one skilled in the art would have had a "reasonable expectation of achieving similar success regardless of which layer was applied first." This position is respectfully traversed.

In its stated object of providing a multilayer wiring board with a relatively simple production process, Furusawa discloses forming the interlayer insulation film 21 after formation of the wiring pattern 17 and conducting posts 18. In this way, the interlayer insulation film can be formed after top surfaces of the conductor posts are exposed "with certainty" (see column 2, lines 40-43). Furusawa clearly teaches, therefore, a distinctly different method of forming a wiring board, and the fact that Furusawa's wiring board and that set forth in Claim 1 both have conductive and insulative layers formed within the same layer (as asserted on page 4 of the Office Action) is insufficient to support a claim of obviousness under 35 U.S.C. §103.

What is more, it is respectfully submitted that in Furusawa's disclosed method, there should be no reasonable expectation of "achieving similar success" as Applicants' claimed wiring forming method. One advantage of Applicants' claimed wiring forming method is that by forming an insulated pattern on the substrate first, boundaries, or edges, can be formed on the

substrate to allow for precise application of the second liquid containing a conductive material. In this way, a first conductive pattern can be precisely formed. By forming a wiring pattern and conductive posts before an interlayer insulation film, Furusawa would not achieve the superior results of Applicants' invention and actually teaches away from the wiring forming method recited in Claim 20.

Accordingly, for at least the reasons discussed above, it is submitted that Furusawa fails to render obvious Applicants' invention as set forth in independent Claim 20. Reconsideration and withdrawal of the rejection of the claims under 35 U.S.C. §103 is therefore respectfully requested.

Claims 23-26 are also submitted to be patentable over the cited art. In Claim 23, a wiring forming method includes the first and second steps as set forth in Claim 20. In the third step, after the second step, a second liquid is applied on the first conductive pattern to form a plurality of through hole portions, on the first conductive pattern, with the plurality of through hole portions partially forming a second layer, and in a fourth step, after the third step, the first liquid is applied on the first layer that the first insulated pattern and the first conductive pattern have formed to form a second insulated pattern as part of the second layer that the plurality of through hole portions partially formed. Additionally, a fifth step, after the fourth step, forms a part of a third layer by supplying the second liquid on the second layer so as to connect the plurality of through hole portions.

For the reasons discussed above, Furusawa does not teach or suggest the first and second steps provided in Claim 23. Furthermore, Furusawa also fails to teach or suggest applying a second liquid on the first conductive pattern to form a plurality of through hole

portions partially forming a second layer, and applying the first liquid on the first layer to form a second insulated pattern as part of the second layer having a plurality of through hole portions.

Accordingly, it is submitted that Applicants' invention as set forth in independent Claims 20 and 23 is patentable over the cited art. In addition, dependent Claims 21, 22 and 24-26 set forth additional features of Applicants' invention. Independent consideration of the dependent claims is respectfully requested.

In view of the foregoing, reconsideration and allowance of this application is deemed to be in order and such action is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

/Scott D. Malpede/

Scott D. Malpede
Attorney for Applicants
Registration No. 32,533

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

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